

AMENDMENTS TO THE CLAIMS

This listing of the claims replaces all prior versions, and listings of the claims in the application:

1. (Original) A respiratory gas monitoring system comprising:
an interface unit having a input coupling and an output; and
a plurality of gas measurement systems, wherein each gas measurement system is adapted to be placed in fluid communication with an airway of a patient to measure at least one respiratory gas, wherein each gas measurement system has an output coupling that is adapted to be removable coupled to the input coupling of the interface unit, and wherein each gas measurement system includes processing means for determining, from the respiratory gas, at least one respiratory variable of such a patient and for providing an output to the interface unit via the output coupling.
2. (Original) The respiratory gas monitoring system of claim 1, wherein the plurality of gas measurements systems include a sidestream gas measurement system and a mainstream gas measurement system.
3. (Original) The respiratory gas monitoring system of claim 1, wherein the output of the interface unit is a hardwired communication link or a wireless communication link.
4. (Original) A method of respiratory gas monitoring comprising the steps of:
providing an interface unit having a input coupling and an output;
providing a plurality of gas measurement systems, wherein each gas measurement system has an output coupling, and wherein each gas measurement system includes processing means for determining, from the respiratory gas, at least one respiratory variable of such a patient and for providing an output to the interface unit via the output coupling; and

selectively coupling one of the plurality of gas measurement systems to the interface unit by coupling the output coupling of an associated gas measurement system with the input coupling of the interface unit.

5. (Original) The method of claim 4, further comprising:
operatively coupling the output of the interface device to a host system; and
communicating the at least one respiratory gas variable from the gas measurement system to the host system via the interface unit.

6. (Original) A sidestream gas measurement system adapted to communicate with a host system that is configured to communicate only with a mainstream gas measurement system, the sidestream gas measurement system comprising:

- a housing;
- a sample cell connector associated with the housing and adapted to receive a sample cell;
- a gas sensor disposed in the housing relative to the sample cell connector so as to be in communication with the sample cell responsive to the sample cell being received in the sample cell connector, and wherein the gas sensor outputs a signal indicative of a property of a gas in the sample cell;
- emulation means, receiving the signal from the gas sensor, and using the signal in an output signal to simulate signals of output by a mainstream gas measurement system; and
- a communication element operatively coupled to the emulation means to interface the sidestream gas measurement system with such a host system.

7. (Original) A sidestream gas measurement system, comprising:
a first conduit having a first end adapted to be placed in fluid communication with a patient circuit and a second end;
a sample cell disposed at the second end of the first conduit;

a gas sensor operatively coupled to the sample cell, wherein the gas sensor outputs a signal indicative of a property of a gas;

a processing element adapted to receive the signal and to determine a respiratory gas variable based on the signal; and

a host system interface configured to communicate an output of the processor with a host system configured to interface only with a mainstream gas measurement system, and wherein the processing element configures signals provided by the host system interface to emulate signals provided by a mainstream gas measurement system or portion thereof.

8. (Original) A method of gas monitoring comprising the steps of:

connecting a first conduit with an airway of a patient;

communicating a flow of gas through the first conduit to a sample cell;

measuring a property of gas in the sample cell via a gas sensor operatively coupled to the sample cell;

emulating signals provided by a mainstream gas measurement system or portion thereof including the measured property; and

providing the signals to a host system configured to interface only with a mainstream gas measurement system.